ABSTRACT

The present invention features a coke drum de-heading system that provides unique advantages over prior art de-heading systems, namely the de-heading of a coke drum without having to physically remove the head units. This is essentially accomplished using one of a variety of specially designed de-header valves that may be removably coupled to a coke drum much the same way a conventional head or flange unit would be attached. The de-header valve is equipped with, among other things, a valve closure and means for supporting a valve closure capable of forming a continuous contact seal during the coke manufacturing process. The means for supporting a de-header valve typically comprises a seat support system comprising a variety of configurational designs. Actuation of the valve closure functions to open and close the de-header valve, wherein in a closed position, the de-header valve and coke drum are prepared to receive the petroleum byproduct feed from the refinery process used to manufacture coke. Once the drum is full, the de-header valve is again actuated (opened), wherein the coke that has accumulated on the blind is sheared by the seat support system, thus effectively de-heading the coke drum and facilitating the decoking process.